WORKWAY

TECHNICAL WHITE PAPER / VERSION 2.0

Safety Footwear Manufacturing for European Markets

Standards, development and repeat-production control

A practical decision guide for PPE brands, importers, distributors and product teams.

EN ISO 20345:2022 + A1:2024

Standards and sources checked: 11 September 2026

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EXECUTIVE BRIEF

From an approved sample to a repeatable product

A safety footwear programme has two linked tasks: establish that the defined product meets its requirements, and keep production aligned with that definition. A successful sample starts the process. It cannot describe every later material lot, size, colourway or production run.

> **WORKWAY perspective**
> **A good sample proves possibility. Stable production proves capability.**

This guide turns that principle into decisions a buyer and manufacturer can document together. It connects standards, product development, cooperation models, outsole selection and long-term supply with practical controls for each stage.

Decision	Go to
Which standard reference and product claims should the brief use?	03-04
How should design, ownership and material choices be defined?	05-07
What must happen before bulk production or a substitution?	08-09
What evidence should the buyer request before release?	10
Where are the sources and the next step?	11-12

Scope and evidence

The regulatory discussion concerns EU market placement. Other European markets need their own market-access checks. Standard facts have numbered sources; WORKWAY recommendations and illustrative scenarios are identified as such. Adapt the framework to the actual product, responsible parties and applicable assessment requirements.

01 / COMPLIANCE FOUNDATIONS

Use the right standard reference

For this edition, the European reference is **EN ISO 20345:2022 together with A1:2024**. Consolidated national editions may display this as EN ISO 20345:2022+A1:2024. The underlying international publication is **ISO 20345:2021/Amd 1:2024**. BSI lists BS EN ISO 20345:2022+A1:2024 as its current release. [1-3]

What is current in the EU list?

Commission Implementing Decision (EU) **2026/1279**, Annex I, entry 194, lists EN ISO 20345:2022 and EN ISO 20345:2022/A1:2024. It replaces the previous 2023/941 decision, subject to specified transitional provisions. Cite the current list rather than relying only on the 2024 amending decision. [4]

A standard, a certificate and a declaration do different jobs

Regulation (EU) 2016/425 sets the legal requirements. Applying a listed harmonised standard provides a presumption of conformity for the essential requirements it covers. The EU type-examination certificate relates to an assessed type; the EU declaration of conformity is the manufacturer's declaration. They are not interchangeable documents. [5]

> **Which date belongs in the project brief?**
> **Record the complete edition and amendment, the target market, the model and the intended claims. A year alone is not a compliance specification.**

Before release, reconcile the certificate and its annexes, model identifiers, applicable test evidence, label, user instructions and declaration. Assign responsibility for document updates and market-specific information. A report for a similar shoe is not evidence that the ordered construction is covered.

Verification boundary: public ISO/BSI records establish edition status; official EU texts establish listing and duties. This guide is not a full test specification or a clause-by-clause A1 gap assessment. Product assessment requires the complete applicable standard and legal texts.

02 / MARKINGS THAT AFFECT BUYING DECISIONS

Read the claim before choosing the construction

The following is a decision aid, not a complete classification table. These distinctions belong to the 2022-generation system; they should not all be described as changes introduced by A1:2024. [6-8]

Marking / property	Meaning and buying implication
Basic slip / SR	Applicable footwear has a basic ceramic tile + sodium lauryl sulphate test. SR adds ceramic tile + glycerine. It is not a universal no-slip guarantee. Check any permitted non-tested exception. [6,7]
P / PL / PS	P identifies a metallic penetration-resistant insert. PL and PS identify non-metallic types using 4.5 mm and 3.0 mm test nails respectively. Specify the intended type, not just “textile midsole”. [6]
WPA / WR	WPA concerns upper water penetration and absorption. WR concerns whole-footwear water resistance. An upper claim does not establish a whole-shoe claim. [6,8]
S6 / S7 families	S6 adds whole-footwear water resistance to S2; S7, S7L and S7S add it to the corresponding S3 family. Confirm the full category and penetration type. [8]
FO / SC / LG	FO is an additional outsole fuel-oil-resistance claim; SC and LG concern scuff-cap abrasion and ladder grip. Request relevant claims explicitly. [6,8]

Buyer decision: start with the workplace hazards, then agree the classification and additional claims. More letters can add cost, weight or construction constraints without solving a relevant use requirement. A laboratory marking cannot predict performance on every floor, contaminant or wearing condition.

03 / PRODUCT-DRIVEN DEVELOPMENT

Define the product before refining the sample

WORKWAY recommends a project brief that makes the intended use, required evidence and commercial constraints visible at the same time. A design can look resolved while the production definition is still incomplete.

Define early	Translate into a controlled record
Workplace and wearer	Floor and contaminant exposure; wet or dry work; puncture hazards; shift length; fit needs; care and storage conditions.
Product and market	Target countries, intended claims, sizes and widths, colourways, instructions and label languages.
Construction	Last, toe cap, penetration insert, upper, lining, insock, sole system and attachment method, with component identifiers.
Commercial limits	Target price position and weight, order quantities, variant mix, tooling investment and launch timing.
Acceptance	Who approves appearance, fit, testing, pilot production and final release; which record resolves a disagreement.

Illustrative manufacturing detail: “just change the lining”

A lining substitution can change thickness, friction and the space available inside the shoe. The development review should compare specifications and fit in the assembled construction, then assess whether compliance-related properties or the approved type may be affected. Similar colour and hand feel do not establish equivalence.

Check the size range, not only the sample size

Review how the last, toe cap and insert fit together across the range. A pleasing fit in one development size does not settle toe-cap position, internal volume or assembly behaviour in every size. Agree representative size checks and the formal assessment sample selection with the responsible technical parties.

> **Freeze a reproducible specification, not merely a signed shoe.**

04 / OEM, ODM AND HYBRID COOPERATION

Choose responsibilities, then name the model

OEM and ODM are commercial descriptions, not fixed allocations of legal responsibility. In practice, buyer-led design, manufacturer platforms and joint development can overlap. Confirm who controls the product and the records before agreeing the cooperation label.

Route	Useful when	Resolve before commitment
OEM / buyer-led	The buyer has a developed specification and the resources to maintain it.	Who closes specification gaps, approves process adaptations and funds validation?
ODM / platform-led	A manufacturer platform fits the market need and can shorten initial design work.	What is already assessed? Which customisations change scope? What access and exclusivity are agreed?
Hybrid	An existing sole or last platform supports a differentiated upper or feature set.	Which interfaces remain fixed, and which changes require a new technical review?

Put these decisions in writing

Design: ownership and permitted use of drawings, lasts and tooling.
Evidence: who holds technical documentation and certificate records, and who can access them.
Change: who proposes, technically reviews, approves and implements a revision.
Continuity: what happens when a component is discontinued or the relationship ends.

A company marketing PPE under its own name or trademark may carry manufacturer obligations under the PPE Regulation. A supply contract should reflect the actual roles; calling a project “ODM” does not remove those duties. [5]

> **WORKWAY perspective**
> **The useful question is not only “OEM or ODM?” It is “Who can authorise a change, and who can prove what was produced?”**

05 / PERFORMANCE AND TRADE-OFFS

Specify an outsole system, not a material name

PU, TPU, rubber and EVA describe material families. They do not, by themselves, establish slip performance, durability or a certified claim. WORKWAY recommends comparing candidate systems in the intended construction and use conditions.

System consideration	Trade-off to discuss	Evidence to request
PU-based cushioning	Weight and cushioning versus ageing, storage exposure and the selected formulation.	Defined material grade; relevant ageing and finished-footwear assessment.
TPU wear layer	Wear-layer design and flexibility versus bonding interfaces, processing and target weight.	Layer and compound specification; flex and attachment validation.
Rubber outsole	Compound and tread selection versus density, weight, processing and attachment needs.	Claim-specific results for the chosen compound and assembled shoe.
EVA-based midsole	Cushioning and low mass versus compression behaviour and the protective wear layer.	Construction-specific evaluation and repeat-production controls.

Two checks that prevent misleading comparisons

Compare the same construction. An outsole test, a component data sheet and a whole-footwear report answer different questions. Ask which specimen and revision each result represents.
Compare the same claim. Fuel-oil resistance describes material behaviour under a defined test. It does not establish slip resistance on oil. [7,8]

Illustrative process issue: an equivalent rubber compound

Matching hardness does not establish equivalent formulation or processing. Compare the controlled specifications, review the process implications and verify affected properties. Examine surface texture, mould condition and finished tread as well.

> **Select for the actual workplace and controllable production. There is no universal best outsole.**

06 / PRODUCTION READINESS

Make the sample-to-bulk handover explicit

An approved sample can differ from bulk production because material lots, equipment, operators and process conditions change. The purpose of a production trial is to reveal those differences while they can still be investigated. It is not a substitute for formal conformity assessment.

Gate	Evidence to retain	Release question
1. Product baseline	Approved sample ID, bill of materials revision, drawings, claim list and permitted variants.	Can all teams identify the same product?
2. Material readiness	Supplier and grade references, incoming checks, lot identity and shortage plan.	Are bulk components the specified components?
3. Process trial	Trial conditions, equipment, settings, inspection results and representative retained pairs.	Can the production route reproduce the baseline?
4. Release review	Applicable conformity documents, closed trial issues, inspection plan and sign-offs.	Is there evidence for production release?

Look at interfaces where variation accumulates

For bonded constructions, record surface preparation, adhesive system, activation conditions and assembly timing as applicable. For injected constructions, control the formulation and process settings relevant to the selected system. The actual operating limits should come from validated process work, not generic numbers in a white paper.

Why can a good sample fail to predict bulk quality?

A development sample demonstrates one combination of components and assembly conditions. Bulk production introduces variation and may introduce unreviewed substitutions. Without a controlled bill of materials, a defined production route and evidence from production trials, the sample is an incomplete reference. This is a manufacturing risk explanation, not a claim that every sampling process is unreliable.

07 / CHANGE CONTROL AND REORDERS

Treat every substitution as a decision

The relevant question is whether a change can affect the approved type, conformity or the conditions of the certificate. The PPE Regulation requires notification to the notified body of modifications falling within Annex V, section 7.2, and additional approval. Buyer approval alone is insufficient. [5]

Proposed change	Technical question	Practical next step
New upper or lining	Do thickness, backing, performance or fit differ from the controlled specification?	Compare the specifications and construction; assess affected properties and certificate scope.
New outsole compound	Could formulation, processing, slip or other claimed performance change?	Identify the revision; agree validation and any notified-body approval required.
Membrane or seam change	Could the water barrier or assembly route be altered?	Review the whole-footwear construction and relevant verification.
New colourway or insock	Is this exact variant covered, and could materials or performance differ?	Document the scope review before implementation.

A workable change record

Record the reason, old and proposed component IDs, affected models and sizes, risk assessment, test or review evidence, technical and commercial decisions, and the first production lot using the revision. Separate old and revised stock so that a complaint can be traced to the correct construction.

When does a change need re-testing?

There is no reliable rule that every change needs a full retest or that a visually minor change needs none. The decision depends on the affected properties, approved scope and conformity implications. Identify those effects first, then agree the necessary testing and notified-body action. Record the rationale even when no further test is required.

> **WORKWAY recommendation**
> **For every reorder, confirm the current revision and ask what has changed since the last approved lot.**

08 / USE AT KICKOFF, BULK RELEASE AND REORDER

A buyer checklist for project release

Use this checklist in the project meeting. Record an owner and evidence reference for each answer. “Yes” without an identifiable record leaves the question unresolved.

Check	Evidence or decision to record
01 Intended use	Target countries, workplace exposure and wearer needs are defined.
02 Claims	The complete standard reference, classification and additional claims are agreed.
03 Roles	Manufacturer, importer, design owner and approval responsibilities are clear.
04 Construction	The current bill of materials, component IDs and approved sample are aligned.
05 Variants	Sizes, colourways, insocks and optional constructions have a documented scope review.
06 Production trial	The production route has been evaluated and material trial issues are closed.
07 Conformity records	Certificate scope, relevant reports, declaration, label and instructions match the product.
08 Quality controls	Incoming, in-process and release checks have criteria, owners and records.
09 Change and traceability	The approval route, revision history and first affected lot are identifiable.
10 Reorder and feedback	Shortages, substitutions, complaints and document reviews have named owners.

If an issue is found after shipment: identify the affected models and lots; preserve samples and records; assess safety and conformity implications; determine containment and required corrective action with the responsible parties. Confirm effectiveness before repeating the process. A commercial concession does not resolve a technical cause.

09 / REFERENCE REGISTER

Sources and verification notes

Public sources checked on 11 September 2026. Links open the original publishers. Numbered references support the adjacent factual claims; the operating framework is WORKWAY's recommended approach.

[1] ISO - ISO 20345:2021/Amd 1:2024. Amendment status and publication identity. Read source

[2] BSI - BS EN ISO 20345. Current release listing. Read source

[3] EVS - EN ISO 20345:2022+A1:2024. Consolidated adoption and base-document mapping. Read source

[4] European Commission / EUR-Lex - Decision (EU) 2026/1279, Annex I, entry 194. Current EU harmonised-standard listing. Read source

[5] European Parliament and Council / EUR-Lex - Regulation (EU) 2016/425. Roles, conformity and approved-type modifications; particularly Articles 8, 12, 14-15 and Annex V section 7. Read source

[6] TUV Rheinland - Update of EN ISO 20345:2011. Technical note on the 2022 generation, markings and test distinctions. Read source

[7] SATRA - Footwear for use in food preparation areas, March 2026. Basic slip condition and additional SR test. Read source

[8] Safety Jogger - EN ISO 20345:2022. Manufacturer explanation of classifications and additional requirements. Read source

How to use this reference set

Use the official standard and applicable legal text for product decisions. Technical explanations help interpret terminology; they do not replace those documents. Verify the current status again when opening a new project or updating an existing product. No certification body has endorsed this white paper.

10 / DISCUSS YOUR PROJECT

Start with the decisions that affect the next order

> **Bring the project brief, the intended claims and the unresolved decisions. Those are the most useful starting points for a technical discussion.**

WORKWAY's perspective is that development, compliance and production should share one controlled product definition. For a new range, that begins with intended use and construction choices. For an existing range, it begins with the approved baseline and the changes that have accumulated since it was assessed.

What to include in your enquiry

Market and use: destination countries, workplace conditions and target wearer.
Product: intended classification, additional claims, construction, size and variant range.
Commercial scope: expected quantities, price position and launch or reorder timing.
Open decision: the material choice, certification scope, production concern or supply constraint you need to resolve.

For an existing programme, share the current specification and available evidence through the agreed project channel. Identifying a missing record early helps define the next technical step.

Discuss your safety footwear project

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Continue with the manufacturing knowledge hub

Safety Footwear Manufacturing for European Markets
Explore WORKWAY's related material on standards, development, cooperation and production. This white paper serves as the practical project reference within that topic series.

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